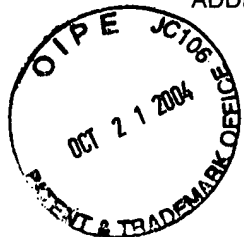


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ON October 19, 2004
Mark B. Quatt
Mark B. Quatt Registration No. 30,484

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Ward et al.
Serial No.: 09/445,640
Filing Date: May 8, 2000
Title: Apparatus and Method for Making Bags of Different Dimensions

Docket No: 42978-01
Examiner: Kim, Eugene
Group Art Unit: 3721

BRIEF ON APPEAL

Commissioner for Patents
Alexandria, VA 22313-1450

Dear Sir:

This Brief is being filed in triplicate in support of a Notice of Appeal filed August 19, 2004, in which the Applicants appealed from the rejection of claims 47 to 59 in the Final Office Action dated May 21, 2004.

The Commissioner is authorized to charge the fee of \$340.00 for filing a Brief on Appeal, to Deposit Account No. 07-1765.

The Commissioner is authorized to charge any additional fees that may be required or credit any overpayment to Deposit Account No. 07-1765.

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Respectfully submitted,

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Real Party in Interest

The real party in interest in this patent application is Sealed Air (NZ) Limited.

Related Appeals and Interferences

There are no other appeals or interferences known to Applicants, the Applicants' legal representative, or assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

The claims now on Appeal are claims 47 to 59.

A copy of the claims presently on Appeal appears in the Appendix.

Status of Amendments

The claims now on Appeal are claims 47 to 59.

These are the same claims that were finally rejected in the Final Office Action dated May 21, 2004. No amendments after Final have been sought or entered.

A copy of the claims presently on Appeal appears in the Appendix.

Summary of the Invention

(References to the specification by page and line numbers are shown in parentheses.)

Packaging apparatus for providing packaging for products of various sizes is known. US Patent No. 3553934 (Johnson) discloses machinery that makes bags of different widths and lengths from folded film dispensed by a single dispenser. Unfortunately, there are a few problems with this apparatus. If products are of varying sizes, then the depth of the folded film must be such that larger bags for accommodating larger products can be made. However, when smaller bags are cut from the film there is considerable wastage (page 1, lines 5 to 12).

A similar problem is present in the apparatus disclosed in US Patent No. 4425988 (Amplas, Inc). This discloses apparatus that makes bags of varying lengths from tubular lay flat film. However, the width of the tubular lay flat film restricts the overall bag size and variations that can be offered. Again wastage occurs. (page 1, line 22 to page 2, line 2)

US Patent No. 4505092 (Hobart Corporation) discloses apparatus which addresses the wastage problem. This apparatus has two film dispensers containing stretch wrap film of different widths. Product passes through the apparatus prior to being packaged. If the product activates either a discrete height or width mechanical sensor, then the product is wrapped in the film having the greater width. Unfortunately, this apparatus is not suitable for all situations. For the pack to be airtight seals must be formed through wrinkle-free areas of the film and show no weakness at the intersection of the seals. Folding of film into a wrinkle free format suitable for airtight seals is relatively easy with regular rectangular shaped products but extremely difficult with irregular shaped products such as cuts of meat. (page 2, lines 3 to 13).

Yet another problem with this machinery is that the discrete mechanical sensors are only of value in selecting the width of film to be used when the products are of a regular shape. This is because an irregular shaped product may not trigger the mechanical sensors, yet still be of a size requiring the greater film width (page 3, lines 3 to 7).

In the present invention, an apparatus for making bags of varying sizes from thermoplastic material for packaging products of irregular size in a moving product stream, includes:

- a remote sensing means for machine assessing and acquiring information on one or more characteristics of size of products in the moving product stream;

- a first film source for supplying thermoplastic film in the form of a lay-flat film tube of a first width;
- a second film source for supplying thermoplastic film in the form of a lay-flat film tube of a second width;
- a printer;
- heat sealing means for making bags from the film sources by heat sealing across one or the other of the film sources near the end of the respective lay-flat film tube to form each bag;
- control means arranged to select one of the film sources based on the acquired size information related to each product, and to cause a bag to be made for each product to a length selected based on the acquired size information related to each product; and
- either a printer shuttle which enables the printer to move to the selected lay-flat film tube, or a means for moving film from the first or second film source to the printer (page 3, lines 14 to 25; page 4, lines 13 to 15; page 6, lines 8 to 13; page 7, lines 1 to 14 and 21 to 24; and page 8, lines 1 to 4.)

Issues

The issues presented for review (per the Final Office Action mailed May 21, 2004) are as follows:

1. Are claims 47 to 59 unpatentable under 35 U.S.C. §103 (a) over Bowers et al. (US Patent No. 4,505,092) in view of Lozeau et al. (US Patent No. 3,701,318)?

Grouping of Claims

Under 37 CFR 1.192(c)(7), applicants state that the claims do not stand or fall together. For the purpose of this appeal, the claims are grouped as follows:

Group 1: Claims 52 to 58.

Group 2: Claims 47 to 51, and 59.

Argument

1. **Claims 52 to 58 are patentable under 35 U.S.C. §103 (a) over Bowers et al. (US Patent No. 4,505,092) in view of Lozeau et al. (US Patent No. 3,701,318).**

Independent claim 52 claims an apparatus that includes means for machine assessing and acquiring information on one or more characteristics of size of products in the moving product stream, wherein the means for machine assessing and acquiring information comprises a remote sensing means.

The Final Office Action indicates at page 2, paragraph 2 that Bowers et al. do not show the “remote sensing detections system” as claimed. Applicants agree.

The Office Action continues at paragraph 2 that “applicant concedes that it is well known/conventional to use vision detecting/remote sensing systems as indicated as indicated on p.7 lines 5+”.

Applicants' statements on page 7 are an admission that remote sensing means are conventionally known in the art. They are not however an admission that it was known, e.g. to combine a remote sensing means with an apparatus for making bags of varying sizes from thermoplastic material for packaging products of irregular size in a moving product stream, in combination with a means for moving film from the first or second film source to the printer.

Independent claim 57 claims an apparatus that includes a machine vision system for assessing the size of meat cuts passing the vision system on a conveying means, wherein the machine vision system comprises a remote sensing means.

Independent claim 58 claims a method of making bags that includes the step of remotely machine assessing at least one characteristic indicative of the size of individual meat cuts in a series of meat cuts in a moving product stream.

Again, Bowers et al. do not show the “remote sensing detections system” of claim 57, or the step of remotely machine assessing at least one characteristic indicative of the size of individual meat cuts; and applicants' statements on page 7 are simply an admission that remote sensing means are conventionally known in the art. They are not an admission that it was known, e.g. to combine a remote sensing means with an apparatus for making bags of varying sizes from thermoplastic material for packaging products of irregu-

lar size in a moving product stream, in combination with a means for moving film from a first or second film source to a printer.

Bowers et al. show a mechanical sensing operation that has a packaging sensing window wherein packages are sensed using swing arms and electrical switches. Bowers et al. use spring biased swing arms which activate electrical switches upon deflection by an entering package, and a downwardly extending lever arm which generates a length signal upon initial contact by an entering package, and which generates a height signal upon ultimate deflection of the lever arm by the package. These functions are described in detail at column 2, line 35 to column 3, line 5; and at column 9, line 12 to column 10, line 51, and swing arms 222 and lever arm 230 are shown in Figure 10.

The products being packaged in Bowers et al. thus require *physical contact* with the mechanical arms that are used to detect each product in order to permit selection of the proper film. In contrast, using a remote sensing means in the present invention, products do not have to be contacted with mechanical arms or levers in order to determine the size of the products and the selection of the appropriate film source.

In the case of meat cuts, avoiding the requirement of physical contact of the products by the sensing system offers a significant advantage in hygiene, since mechanical paddles and the like which would require periodic cleaning are not part of the sensing system.

Also, products of variable size, such as meat cuts, are sometimes placed on a feed conveyor in such an orientation that the long dimension of the product actually extends across the conveyor, i.e. more or less perpendicular to the direction of travel of the products and conveyor, or at some other angle with respect to the direction of travel of the meat cut. The remote sensing system of the invention allows the selection of the film source having the most appropriate bag width independent of the particular physical orientation of the meat cut vis-à-vis the direction of travel of the meat cut., so that an operator can have a bag of the optimal bag width selected, and can then reorient the meat cut before it is loaded into the bag (see the specification at e.g. page 7, lines 5 to 18). No capability has been identified in the Office Action whereby Bowers et al. would be able to use their mechanical system in this manner.

Applicants therefore respectfully submit that claims 52 to 58 are patentable under 35 U.S.C. §103 (a) over Bowers et al. in view of Lozeau et al.

2. **Claims 47 to 51, and 59 are patentable under 35 U.S.C. §103 (a) over Bowers et al. (US Patent No. 4,505,092) in view of Lozeau et al. (US Patent No. 3,701,318).**

Applicants rely on the above comments with respect to Bower et al.

Applicants also point out, with respect to claims 47 to 51, and 59, that Bower et al. fail to teach a printer shuttle. The Final Office Action at paragraph 2 agrees with this, but then states:

Lozeau et al teach the concept of feeding a web to a **print shuttle** to print on the moving web to precisely print on particular areas of the **webs**. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide Bowers et al with print shuttle means as taught by Lozeau et al to print on **webs** in a very precise manner.

[Emphasis added]

Applicants respectfully disagree with the characterization of the Lozeau et al reference, and the conclusions reached.

Lozeau et al do not refer to a printer shuttle means, but to a "shuttle" printer. The difference becomes clear e.g. with respect to column 7, lines 43 to 65. There the reference states that:

FIG. 6 illustrates the operation of a "shuttle" printer and a method for feeding a ribbon 209 according to the invention in such a printer is shown and described in detail in U.S. Pat. No. 3,313,390 issued to R.H. Curtiss on April 11, 1967. The rotating type drum 200 in the shuttle printer schematically illustrated in FIG 6 has spaced fonts 201 located at alternate columns of the line to be printed on the document 203. During a printing operation, the columns on the document 203 which are aligned with the fonts 201 are printed; the position of the document 203 at this time is indicated at the letter "a" in FIG. 6. ***After these columns are printed the document 203 is shuttled or moved along the print line in the direction of the arrow designated "b". This is accomplished by moving the paper feed tractors 5 (FIG. 1) laterally.*** The document 203 is stopped at the position indicated by the letter "c" so that those columns originally located at the spaces between the fonts 201 are now aligned with them. Printing is then performed in these columns and the entire line is complete. The ribbon 209 is alternately fed between two mandrels such as 15a and 15b, FIG. 2 in the directions shown by the arrow designated "c".

[Emphasis added]

The “shuttling” that occurs is simply the movement of the document 203 along the print line.

In contrast, the print shuttle means of the present invention actually moves the printer between a first web and a second web.

It should be noted that there is only one web in Lozeau et al. Thus, the statement in the Office Action referring to the “webs” of Lozeau et al has no basis, and misses a distinction between the reference and the present invention. There is no teaching in the reference of, and no need for, a printer shuttle means to go from one web to another web, because only one web is disclosed.

Independent claim 47 claims an apparatus that includes inter alia

- a first film source for supplying thermoplastic film in the form of a lay-flat film tube of a first width;
- a second film source for supplying thermoplastic film in the form of a lay-flat film tube of a second width;
- a printer; and
- a printer shuttle which enables the printer to move to the selected lay-flat film tube.

Thus, the printer shuttle of claim 47 is a shuttle that enables the printer to move to the selected lay-flat tube (either the film of the first film source or the film of the second film source) to print that selected film. The invention provides for a printer shuttle means so that a single printer can be shuttle back and forth as appropriate to print the selected film. Lozeau et al shows nothing like this, since the printer per se is not being moved between a first and second film.

It is also relevant to the evaluation of patentability, to note that the [paper] web of Lozeau et al moves to the printer. Claim 47 requires instead that the printer move to the web.

Independent claim 59 claims a method that includes inter alia the steps of

- automatedly making a bag for each meat cut by selecting via a control means and based on the acquired size information related to each meat cut, one of at least a first source or second film source of lay-flat thermoplastic film tube of different widths;
- providing a printer;
- moving a printer shuttle means to the selected film source of lay-flat thermoplastic film tube; and

- printing the film of lay-flat thermoplastic film tube.

Lozeau et al do not show these steps, because 1) it is the web of Lozeau et al that moves to the printer, not vice versa, and 2) only a single [paper] web is disclosed in Lozeau et al, so there is no disclosure of a printer shuttling to a selected film source of lay-flat thermoplastic film tube.

Applicants respectfully ask the Board to reverse the finding of the Final Action, and to find claims 47 to 59 patentable over the art of record.

Appendix

What is claimed is:

47. An apparatus for making bags of varying sizes from thermoplastic material for packaging products of irregular size in a moving product stream, comprising means for machine assessing and acquiring information on one or more characteristics of size of products in the moving product stream, wherein the means for machine assessing and acquiring information comprises a remote sensing means; a first film source for supplying thermoplastic film in the form of a lay-flat film tube of a first width; a second film source for supplying thermoplastic film in the form of a lay-flat film tube of a second width; a printer; heat sealing means for making bags from the film sources by heat sealing across one or the other of the film sources near the end of the respective lay-flat film tube to form each bag; control means arranged to select one of the film sources based on the acquired size information related to each product, and to cause a bag to be made for each product to a length selected based on the acquired size information related to each product; and a printer shuttle which enables the printer to move to the selected lay-flat film tube.

48. The apparatus according to claim 47 wherein the means for machine assessing and acquiring information on one or more characteristics of size of products in the moving product stream comprises a machine vision system.

49. The apparatus according to claim 47 wherein the apparatus is arranged to produce a thermoplastic bag for a product arriving on a product conveying means, after removal of a previous thermoplastic bag.

50. The apparatus according to claim 47 wherein:

the means for machine assessing and acquiring information on one or more characteristics of size of products in the moving product stream comprises a vision system for assessing the size of meat cuts passing the vision system on the conveying means,

the first film source and the second film source comprise rolls of lay-flat thermoplastic film tube of a first width and a second width respectively, provided at a packing station which also includes heat sealing and cutting means for making bags by heat sealing and cutting across film from the film rolls to form bags; and

the control means is arranged to cause a bag to be made for each meat cut approaching the packing station from a selected one of the film rolls of a first width and a second width respectively, and to cause the bag to be made to a length based on size information from the vision system relating to the approaching meat cut, and to cause the bag to be presented for use in packing the meat cut, after a previous bag used for packing a previous meat cut has been removed.

51. The apparatus according to claim 47 which comprises a means for cutting the respective lay-flat film tube.

52. An apparatus for making bags of varying sizes from thermoplastic material for packaging products of irregular size in a moving product stream, comprising means for machine assessing and acquiring information on one or more characteristics of size of products in the moving product stream, wherein the means for machine assessing and acquiring information comprises a remote sensing means; a first film source for supplying thermoplastic film in the form of a lay-flat film tube of a first width; a second film source for supplying thermoplastic film in the form of a lay-flat film tube of a second width; a printer; heat sealing means for making bags from the film sources by heat sealing across one or the other of the film sources near the end of the respective lay-flat film tube to form each bag; control means arranged to select one of the film sources based on the acquired size information related to each product, and to cause a bag to be made for each product to a length selected based on the acquired size information related to each product; and a means for moving film from the first or second film source to the printer.

53. The apparatus according to claim 52 wherein the means for machine assessing and acquiring information on one or more characteristics of size of products in the moving product stream comprises a machine vision system.

54. The apparatus according to claim 52 wherein the apparatus is arranged to produce a thermoplastic bag for a product arriving on a product conveying means, after removal of a previous thermoplastic bag.

55. The apparatus according to claim 52 wherein:

the means for machine assessing and acquiring information on one or more characteristics of size of products in the moving product stream comprises a vi-

sion system for assessing the size of meat cuts passing the vision system on the conveying means,

the first film source and the second film source comprise rolls of lay-flat thermoplastic film tube of a first width and a second width respectively, provided at a packing station which also includes heat sealing and cutting means for making bags by heat sealing and cutting across film from the film rolls to form bags; and the control means is arranged to cause a bag to be made for each meat cut approaching the packing station from a selected one of the film rolls of a first width and a second width respectively, and to cause the bag to be made to a length based on size information from the vision system relating to the approaching meat cut, and to cause the bag to be presented for use in packing the meat cut, after a previous bag used for packing a previous meat cut has been removed.

56. The apparatus according to claim 52 which comprises a means for cutting the respective lay-flat film tube.

57. An apparatus for making bags of varying sizes from thermoplastic material for packaging meat cuts of irregular size in a moving product stream, comprising a machine vision system for assessing the size of meat cuts passing the vision system on a conveying means, wherein the machine vision system comprises a remote sensing means; a first film source for supplying thermoplastic film in the form of a lay-flat film tube of a first width; a second film source for supplying thermoplastic film in the form of a lay-flat film tube of a second width; a printer; heat sealing means for making bags from the film sources by heat sealing across one or the other of the film sources near the end of the respective lay-flat film tube to form each bag; and control means arranged to select one of the film sources based on the acquired size information related to each meat cut, and to cause a bag to be made for each meat cut to a length selected based on the acquired size information related to each meat cut;

wherein the apparatus is arranged to produce a thermoplastic bag for a meat cut arriving on a product conveying means, after removal of a previous thermoplastic bag; and wherein the apparatus comprises either a printer shuttle which enables the printer to move to the selected lay-flat film tube, or a means for moving film from the first or second film source to the printer.

58. A method of making bags for packing meat cuts comprising:

- a) remotely machine assessing at least one characteristic indicative of the size of individual meat cuts in a series of meat cuts in a moving product stream;
- b) automatedly making a bag for each meat cut by selecting via a control means and based on the acquired size information related to each meat cut, one of at least a first source or second film source of lay-flat thermoplastic film tube of different widths;
- c) moving the film of lay-flat thermoplastic film tube from the selected film source to a printer;
- d) printing the film of lay-flat thermoplastic film tube; and
- e) sealing and cutting a length of the selected lay-flat thermoplastic film tube based on the acquired size information related to each meat cut, to cause a bag to be made for each meat cut.

59. A method of making bags for packing meat cuts comprising:

- a) remotely machine assessing at least one characteristic indicative of the size of individual meat cuts in a series of meat cuts in a moving product stream;
- b) automatedly making a bag for each meat cut by selecting via a control means and based on the acquired size information related to each meat cut, one of at least a first source or second film source of lay-flat thermoplastic film tube of different widths;
- c) providing a printer;
- d) moving a printer shuttle means to the selected film source of lay-flat thermoplastic film tube;
- e) printing the film of lay-flat thermoplastic film tube; and
- f) sealing and cutting a length of the selected lay-flat thermoplastic film tube based on the acquired size information related to each meat cut, to cause a bag to be made for each meat cut.